**IT Applications Unit 3, AOS 1, Online Communities**

**Complete the following, from pgs, 14-18: Network communication standards**

**Networks are classified according to below and we will study the following:**

1. **Network Categories: LAN, WAN**
2. **Network Architecture, client-server; peer-to-peer; internet peer-to-peer; intranet**
3. **Network communication standards**
4. **Network hardware and software**
5. **Transmission media**
6. **Network security**

**Network communication standards**

1. **Why are network standards required?**

* Network communication standards are required to overcome problems of incompatibility on a network and to ensure that hardware and software components can be integrated into any network.

1. **What is a protocol?**

* A protocol is a standard that defines how two computers or devices on a network transmit data.

1. **What is the OSI?**

* OSI stands for Open Systems Interconnection. It is a standard for network communications that defines a model for using protocols in seven layers.

**Ethernet**

1. **Describe the nature of Ethernet.**

* Ethernet is a network standard that describes communication over a single cable shared by all devices on the network.

1. **What are frames?**

* Frames communicate between nodes in short messages which contain packets of information.

1. **Identify the 4 components of all Ethernet frames.**

* Destination node address
* Sending node address
* Some data
* Parity information

1. **Fig. 1-9 on p 17 lists the Ethernet type, cable type, maximum length and transfer rate for Ethernet transmissions. The College typically uses 100BaseTX, Cat 5 or10Gbase-T. What are their respective maximum lengths and transfer rates?**

* 85m and 100mbps

**TCP/IP**

1. **Describe the nature of TCP/IP.**

* TCP/IP or Transmission Control Protocol/ Internet Protocol is a protocol that is internet based. This protocol defines how data is carried from one part of the network to the other.

1. **TCP/IP uses smaller packets than other protocols. Why is this an advantage on the internet?**

* Using smaller packet sizes is an advantage on the internet because they give more options to the network management software to enable load balancing.

**802.11 wireless standard**

**1 What does this standard do?**

* The 802.11 wireless standard defines how two computers or devices can communicate using radio waves.

1. **What is a Wi-Fi network?**

* A Wi-Fi network allows computers that are up to 50 metres apart to be connected without the need for wires.

1. **Different wireless standards transmit at different frequencies. What is the advantage of the newer 802.11 standard?**

* The advantage of the newer 802.11 standard is that it has a higher radio frequency and transfer rate.